

APPENDIX B

FIRE MANAGEMENT

GENERAL FIRE ECOLOGY

The fire ecology of the planning area is strongly influenced by cheatgrass, which occurs on over 75 percent of the area. Fire management/ecology considerations in this area are based on the relationship between cheatgrass and fire and the resulting effects on native and seeded species. Cheatgrass is more flammable than native species, and is flammable four to six weeks earlier in the summer as well as one to two months later in the fall (Stewart and Hull 1949). The first wildfire of the season usually occurs during late June in the Shoshone District, which is soon after cheatgrass matures. Native perennials are easily killed by burning at this time (Wright and Klemmedson 1965).

Research summarized by Wright, Neuenschwander, and Britton (1979) provides specific information on the fire effects of individual species. The fire responses shown in Table B-1 are adapted from this publication.

FIRE ECOLOGY ZONES (See Map 6)

Zone 1

This zone consists of large, uniform areas of public lands with drastically altered vegetation. The dominant plant species is cheatgrass and perennial grasses other than Sandberg bluegrass are rare. Sagebrush and seedings of crested wheatgrass are found only in scattered pockets.

Portions of this zone have a high fire frequency and the entire zone has a high potential for very large fires. Summer wildfires would result in increased erosion hazards on sandy areas, but would result in only minor changes in the present vegetative composition. Cheatgrass is highly competitive and recovers rapidly after burning. Pre-burn plant composition would generally be reached within two to three years after burning. This zone covers 19 percent (225,118 acres) of the Monument Planning Area.

Fire Ecology Zones

Zone 1A

Zone 1A

This area differs from the rest of Zone 1 in that the fire frequency is much higher. These lands have the highest fire frequencies in the planning area, with fire frequencies as low as one large fire every five years. This zone covers 8 percent (90,972 acres) of the planning area. Present vegetation and vegetative responses to wildfire in this zone are the same as for Zone 1 lands.

Zone 2

This zone consists of large areas of public lands with drastically altered vegetation. Cheatgrass is the dominant species, but large areas have been seeded to crested wheatgrass. Sagebrush and other native species are rare to absent except in scattered remnants.

The potential for very large fires is high in this unit, although lower than in Zone 1. An area of high frequency of small fires exists along the railroad on the north side of this zone. This zone covers 14 percent (161,704 acres) of the planning area.

Summer wildfires would not seriously affect the seeded areas, although a short-term increase in erosion hazards would occur and rest from grazing would be required after burning. Growing conditions are favorable to cheatgrass. Cheatgrass can be expected to increase after burning in the remaining pockets of native vegetation (Young, Evans, and Major 1972; Stewart and Hull 1949). Fire effects on the remainder of Zone 2 lands would be the same as for Zone 1 lands.

Zone 3

The vegetation of this zone is similar to that occurring on Zone 2 lands, but sagebrush and rabbitbrush are more abundant, particularly in the eastern portion of the zone.

The public lands are less contiguous and in smaller blocks than in Zone 2, and fires are less frequent in this zone as well. The portion of Zone 3 lands from Minidoka to American Falls has historically had smaller fires due to three factors: (1) excellent cooperation in suppression activities by the residents; (2) numerous sand blows and rocky areas with sparse vegetation that serve as firebreaks; and (3) high humidity during night and evening hours aids suppression efforts.

Summer wildfires would significantly reduce the existing brush populations, although few other native species would be affected. Cheatgrass is highly competitive and would replace brush after burning. The seeded areas would not be seriously affected, although a short-term increase in erosion hazards would occur and rest from grazing should be provided after burning. All fires have the potential to create serious erosion problems on the eastern portion of this zone. This zone covers 11 percent (127,555 acres) of the planning area.

Zone 4

This zone includes blocks of public lands that are dominated by several species of sagebrush and support varying amounts of native species in the understory. Fire frequencies are low, but the potential for large fires is high. There are 308,918 acres (26 percent) of this zone.

Summer wildfires have the potential to drastically alter the vegetative composition of this zone. Existing native species, especially sagebrush, would be decreased by summer wildfires. Cheatgrass is common throughout the zone and is highly competitive here also. It would increase rapidly after each wildfire as native species are killed by burning.

Prescribed burning can be a viable alternative for brush control, but some increase in cheatgrass should be expected in the space created by brush mortality. Although prescribed burning could be beneficial, the potential exists to convert the vegetation to a cheatgrass dominated community with frequent burning (Stewart and Hull 1949; Young, Evans, and Major 1972).

Zone 5

This zone is made up of those areas on the north end of the planning area that have low potential to be dominated by cheatgrass. One percent of the planning area (19,471 acres) is included in this zone. Idaho fescue is the dominant potential understory species and the climatic regime of these areas is less favorable to cheatgrass. Zone 5 lands are in fair or good ecological condition, and considerable competition with cheatgrass occurs from native perennials. Unless burning causes unexpected mortality of perennials, competition with perennials would prevent a significant increase of cheatgrass in this zone.

Fire frequencies have been low on most of this zone, although there is evidence of frequent burning on small areas. There have been no fires recorded during the past 25 years. The potential for large fires is low to moderate.

Summer wildfires would result in some mortality on understory species, but only minor changes in composition other than on sagebrush would occur. This zone has the highest potential for beneficial vegetative response to prescribed burning.

Zone 6

This zone consists of sparsely vegetated lava flows. These lavas rarely, if ever, burn and are often used as firebreaks. This zone covers 21 percent (245,251 acres) of the planning area.

STANDARD OPERATING PROCEDURES

The present Bureau policy is to aggressively suppress all new fires on or threatening public lands. Exceptions to this policy occur where management has analyzed alternatives to full suppression and prepared a written course of action prior to fire occurrences. These plans are termed Limited Suppression Plans and they establish criteria under which fires may be allowed to burn with little or no suppression action.

Less than full suppression also occurs whenever multiple fires ignite simultaneously. In these situations, priority is determined by value-at-risk. These values are predetermined by evaluating each resource separately to determine either beneficial or detrimental effects fire has on that resource. A numerical rating is given each resource, plus being detrimental and minus beneficial. After each resource has been evaluated individually, the totals are summarized to establish the values. Crews are dispatched to fires with the highest values until all crews are utilized. Fires with lower values may have delayed suppression times.

Less than full suppression may also occur whenever fires ignite in an area proposed for prescribed fire. These fires may be allowed to burn with little or no suppression action, but only when conditions are within the limits specified in approved, site-specific prescribed burn plans.

The Bureau cooperates with adjacent landowners on a case-by-case basis to reduce fire hazard where efforts are cost effective and the results will benefit BLM's fire management program. Cooperative efforts may range from consulting with private landowners on hazard reduction plans, to development of cooperative agreements and performance of hazard reduction.

GENERAL FIRE SUPPRESSION METHODS

The suppression policy of the Shoshone District is to extinguish fires with the least amount of surface disturbance possible. Whenever burning conditions

and terrain are such that direct attack is not feasible, the suppression strategy is to burn out from existing natural barriers and established control points, such as roads.

Surface disturbing equipment, such as bulldozers, are utilized only with management approval. First priority is clearing of existing roads and second priority, when all other methods are exhausted, is construction of new control lines.

TABLE B-1

SUMMARY OF FIRE EFFECTS ON MAJOR PLANT SPECIES 1/

Species	Response to Fire	Remarks
Cheatgrass	Undamaged	Any reduction in cheatgrass stands is usually short-lived.
Crested wheatgrass	Undamaged	Full stands difficult to burn.
Bluebunch wheatgrass	Slight damage	Can be damaged if burned in a dry year.
Thurber needlegrass and needle-and-thread	Severe damage	Generally among the least fire-resistant bunchgrasses. A 50 percent reduction in basal area should be anticipated.
Prairie junegrass	Undamaged	Probable increase in density for several years after burning.
Sandberg bluegrass	Undamaged	Fire damage is generally minimal on such small plants.
Idaho fescue	Slight to severe damage	Burning with adequate soil moisture appears to cause minimal damage.
Sagebrush	Non-sprouter--severely harmed	Good seed crop before burning hastens recovery.
Rabbitbrush	Vigorous sprouter--enhanced.	May be killed by early summer burns.

1/ The effects described are from dormant season (late fall or early spring) burning except as noted and represent much better responses than those that occur with burning during the growing season. All species can be severely harmed by burning during the growing season. Primary damage during the growing season in the planning area occurs from burns occurring between June 25 and July 25.